FAA-E-2229
September 9, 1965
SUPERSEDING
FAA-955b
March 1, 1962

FEDERAL AVIATION AGENCY SPECIFICATION

REELS, PORTABLE SIGNAL LIGHT GUN

1. SCOPE

1.1 Scope.- This specification covers the requirements of automatically controlled retracting reels to be used to support, balance, and furnish cable and electric power cord to Portable Signal Light Guns suspended from ceilings in Air Traffic Control Tower Cabs.

2. APPLICABLE DOCUMENTS

2.1 FAA standard.- The following FAA standard, of the issue specified in the invitation for bid or request for proposal, forms a part of this specification and is applicable to the extent specified herein:

FAA-STD-001	Color and Texture of Finishes for National Airspace Systems Equipment

2.2 FAA drawings.- The following FAA drawings, of the issue specified in the invitation for bid or request for proposal, form a part of this specification and are applicable to the extent specified herein:

C-4700-2	Airport Traffic Control Tower, Portable Airport Traffic Signal Reels and Mounting Plate Assembly
A-5126	Standard Name Plate

(Copies of this specification and other applicable FAA documents may be obtained from the Federal Aviation Agency, ATTN: Contracting Officer. Request should fully identify the material desired, i.e., standard number, date, and complete drawing numbers. Requests should also identify the invitation for bid, request for proposal, or the contract involved, or other use to be made of the requested material.)

3. REQUIREMENTS

3.1 Equipment to be furnished by the Contractor.- Each equipment unit provided under this specification shall consist of a reel for support cable, a reel for electric power cord, a spring motor for each reel, a mounting plate conforming to Drawing C-4700-2, a cable to support a portable signal light gun, power cord for the light gun, technical publications, and necessary hardware for assembly of the unit. Each equipment unit shall have attached a name plate conforming to Drawing A-5126.

3.2 Support cable reel.- The support cable reel housing shall be fabricated of sheet steel of not less than 20 gauge or of an aluminum or malleable iron casting contoured as shown on Drawing C-4700-2. The cable support reel shall be capable of supporting and balancing a portable signal light gun with a weight of approximately 6-1/2 pounds without exerting undue tension on the spring motor. The total cable length shall be not less then 12 feet with approximately 5 feet of cable projecting from the reel when in the retracted position.

3.3 Electric cord reel.- The housing of the electric cord reel shall be fabricated of the same material as the support cable reel in accordance with Drawing C-4700-2. The reel shall be capable of paying out, balancing, and retracting a 2-conductor, 16 AWG, Type SJ jacketed cord. The cord shall be not less than 12 feet in length and shall be provided with an adjustable stop to limit the retraction of the cord. Eighteen inches of an identical cord shall be provided for connection to a transformer.

3.3.1 Current collector.- The current collector, consisting of slip rings and brushes, shall safely carry 5 amperes, 120 volts as approved by the Underwriter's Laboratories. The collector shall be mounted in a sealed compartment within the drum center and shall maintain electrical continuity during either static or dynamic operation of the reel.

3.3.1.1 Brushes.- Brushes shall be of carbon attached to a non-conductive terminal block within the reel housing. The brushes shall be set with a floating tension which will result in correct alignment, uniform pressure, and arc-less current collection.

3.3.1.2 Slip rings.- Slip rings shall be fabricated of copper with concentric construction which will insure against eccentricity during heavy-duty usage. The rings shall have a smooth surface, free of imperfections which would impair proper service. The slip rings shall be insulated from each other.

3.4 Spring motors.- The reel motors shall be of the heavy-duty, dust-proof, clockspring type, mounted within the steel cable and electric cord reels. The motors shall allow manual pay-out and provide automatic take-up of the support cable and the power cord without interruption of power to the signal light gun. The spring in each reel shall maintain

cable or cord tension which will support and balance a portable signal light gun with a weight of approximately 6-1/2 pounds and the electric cord described in paragraph 3.3, without exerting undue tension on the spring motors. The spring tension in each motor shall be adjustable with a key furnished and attached to each reel housing.

3.5 Brake mechanism.- Each reel shall be provided with a ratchet stop so that the steel support cable and electric cord may be extended and set at any desired length. The ratchet stops shall be arranged so as to allow the cable or cord to be locked within no more than one-half revolution of the drum. The pawls shall be fabricated of metal of a composition and temper which will withstand forces applied by the ratchet stop during heavy duty usage.

3.6 Finish.- The reels and mounting plate shall be finished in conformance with FAA-STD-001.

3.7 Technical publications.- The manufacturer shall furnish two copies of suitable instructions for the operation, maintenance and adjustments and complete parts lists with each complete assembly. These instructions shall be packed with each assembly.

3.8 Materials and workmanship.- All workmanship shall be equal to that found in similar first-grade commercial products. Material not specified shall be carefully selected so as to be suitable for the intended purpose. The reels and accessories shall be free from any blemishes and defects affecting their appearance and serviceability.

4. QUALITY ASSURANCE PROCEDURES

4.1 General.- The inspection and tests shall be performed at the Contractor's plant (at one location in the continental United States). All tests shall be made by the Contractor and may be witnessed by an FAA representative. The Contractor shall make available for Government inspection each reel assembly to be delivered under the contract, if so requested by the Government. The Government reserves the right to waive witnessing any portion of the inspection; in lieu thereof, the Contractor shall furnish certified test data for each reel assembly showing compliance with the specification requirement.

4.2 Test methods.- At least 30 days before the date the equipment is scheduled to be tested, the Contractor shall submit to the Contracting Officer, for approval, three copies of a comprehensive outline, including tentative test data forms, of methods and procedures he proposes to use in conducting the tests required. The procedures proposed shall be sufficiently comprehensive and detailed to assure that all the specifications are checked. The Government reserves the right to require any additional tests necessary to assure that all of the specification requirements are checked.

4.3 Factory inspection and tests.- Each equipment unit furnished under the contract shall be inspected and tested in accordance with the Government-approved procedures to demonstrate compliance with all the requirements.

5. PREPARATION FOR DELIVERY

5.1 Packaging and packing.- The individual reels and base plate may be wrapped separately; however, a complete assembly including the mounting screws or bolts shall be packed in a carton suitable for domestic shipment, prolonged shelf life, and reshipment. The complete reel assemblies may be overpacked in standard commercial containers; such containers, if used, shall be so constructed as to insure acceptance by common or other carriers, for safe transportation at the lowest rate to the point of delivery.

5.2 Marking.- Each package and shipping container shall be marked with the name of the item, and the quantity contained therein as defined by the contract or order under which shipment is made, the name of the Contractor, and the number of the contract or order.

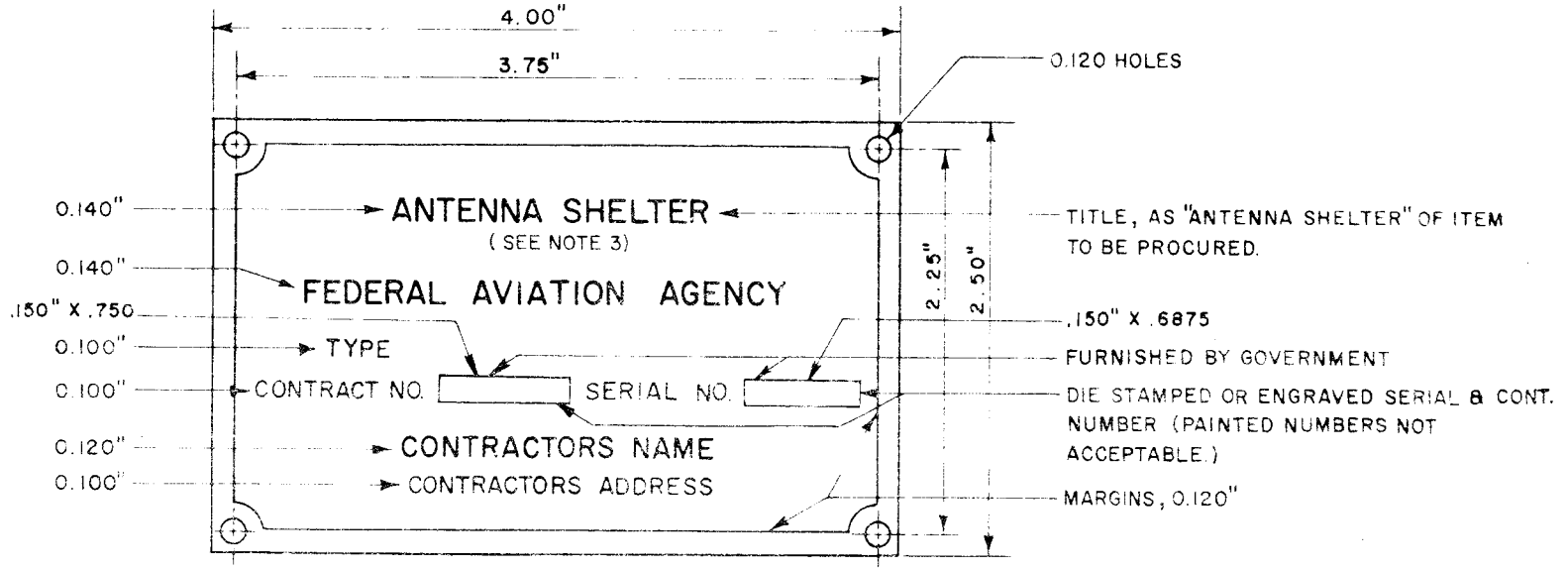
6. NOTES

6.1 None.

* * * * *

ATTACH:

Drawing A-5126 - Standard Name Plate, Rev. 4, 4/11/61
Drawing C-4700-2- Airport Traffic Control Tower, Portable Airport Traffic Signal Reels, and Mounting Plate Assembly, Rev. 3, 1/30/59



NOTES

1. NAME PLATE TO BE MADE OF NO. 20 GAGE NICKEL SILVER, STAINLESS STEEL OR ALUMINUM. LETTERS, AND MARGINS TO BE RAISED DULL METAL FINISH, BACKGROUND TO BE OF BLACK ENAMEL.
2. NAME PLATE MAY BE REDUCED IN SIZE WHERE LIMITED PANEL SPACE MAKES IT DESIRABLE. ALL DIMENSIONS AND LETTER SIZES SHALL BE REDUCED PROPORTIONATELY.
3. FOR ELECTRICAL EQUIPMENT OR OTHER EQUIPMENT REQUIRING RATING DATA INSERT BENEATH TITLE APPROPIATE DATA, FOR EXAMPLE:
   0.100 – ➤ [ ] KVA [ ] VOLT [ ] ~ [ ] PHASE
4. ALUMINUM NAME PLATES SHALL NOT BE USED ON ENGINE-GENERATOR SETS.

4.	CHANGED NOTE 1, & METHOD OF MARKING CONTRACT NO.	4-11-61	
3.	MINOR REVISIONS	3-659	
2	CHGD. TO FAA & ADDED NOTE 4	1-659	
1	MINOR REVISIONS	8-1358	
	DESCRIPTION	DATE	APPD.

U.S. CIVIL AERONAUTICS ADMINISTRATION
OFFICE OF AIR NAVIGATION FACILITIES
PLANT ENGINEERING DIVISION

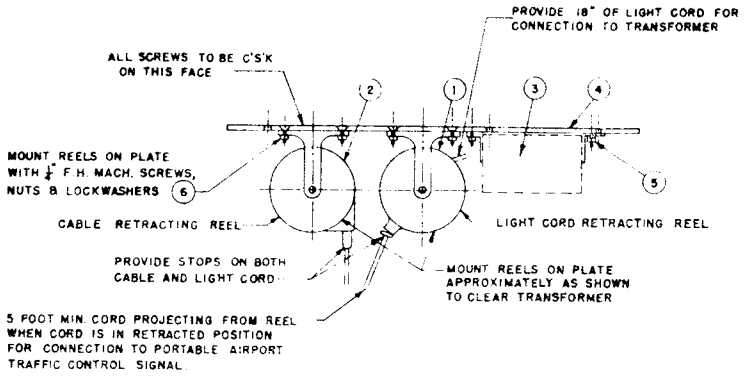
STANDARD NAME PLATE

APPROVED: CHIEF PLANT DESIGN BRANCH

APPROVED: H. [illegible] ALPHER

W.B.W. | 7-15-57 | DR. A-5126

SUPERSEDES DWGS. A-SK NO. 410, B-2692 AND B-2692-1



ELEVATION

LIST OF PARTS

(1) RETRACTING LIGHT CORD REEL

(2) RETRACTING CABLE REEL.

(3) TRANSFORMER TO BE FURNISHED AND MOUNTED ON PLATE BY OTHERS.

(4) MOUNTING PLATE, 7"x3/16"x2'-6", STEEL.

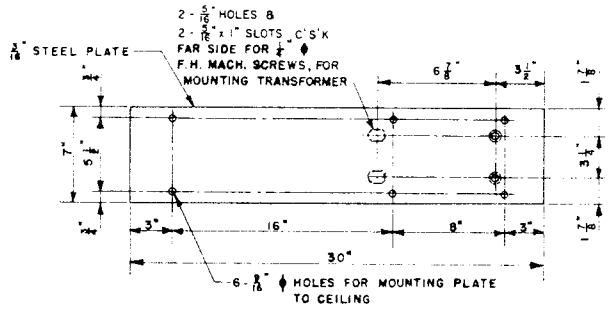
(5) 4-1/4"x1" F.H. MACH. SCREWS WITH NUTS & LOCKWASHERS FOR MOUNTING TRANSFORMER.

(6) 4-1/4"x1" F.H. MACH. SCREWS WITH NUTS & LOCKWASHERS FOR MOUNTING REELS.

NOTES

1. CONTRACTOR SHALL FURNISH MOUNTING PLATE AND REELS WITH ALL HOLES DRILLED IN THE PLATE AND REELS MOUNTED THEREON.

2. THE PLATE SHALL BE FINISHED IN ACCORDANCE WITH SPECIFICATION FAA 955.



MOUNTING PLATE DETAIL

NO.	REVISION	DATE	APPROVED
4	REVISED NOTES & PARTS LIST	5-4-62	
3	CHANGED TRANSFORMER HOLES & BOLTS	10-30-59	
2	ADDED NOTE 3	3-20-53	
1	CHANGED LIST OF PARTS	3-14-52	

CIVIL AERONAUTICS ADMINISTRATION
FEDERAL AVIATION AGENCY
ESTABLISHMENT ENGINEERING DIVISION

AIRPORT TRAFFIC CONTROL TOWER
PORTABLE AIRPORT TRAFFIC SIGNAL
REELS & MOUNTING PLATE ASSEMBLY

ACTING CHIEF R.J. ALPHER
CHIEF STRUC. & LIGHT. ESTAB. BRANCH
DESIGNED J.H.S. TRACED J.F.F.
CHECKED F.S.K. DATE 3-10-50

DR C-4700-2

SPECIFICATION ANALYSIS SHEET

This sheet is provided for obtaining information on the use of this specification by either Contractor or Government personnel. Recommendations should be based on actual or potential savings and advantages to the Government or users. Return of this form will be appreciated.

SPECIFICATION NUMBER AND TITLE	CONTRACT NUMBER

SUBMITTING ORGANIZATION	ADDRESS

SPECIFICATION USED IN:

- ☐ Direct Government Contract - No: _____
- ☐ Government Subcontract - No: _____
- ☐ Other - _____

1. Has any part of the specification created problems or required interpretation?

   A. Give paragraph number and wording.

   B. Recommendations for correcting the deficiencies.

2. Comments on any specification requirement considered too rigid?

3. Is the specification restrictive? ☐ Yes; ☐ No

   If "yes", in what way?

4. REMARKS. "Attach to this form any additional pertinent data which may be of use in improving this specification. Form with attachments should be mailed together in an envelope addressed as shown on reverse side".

SUBMITTED BY	DATE